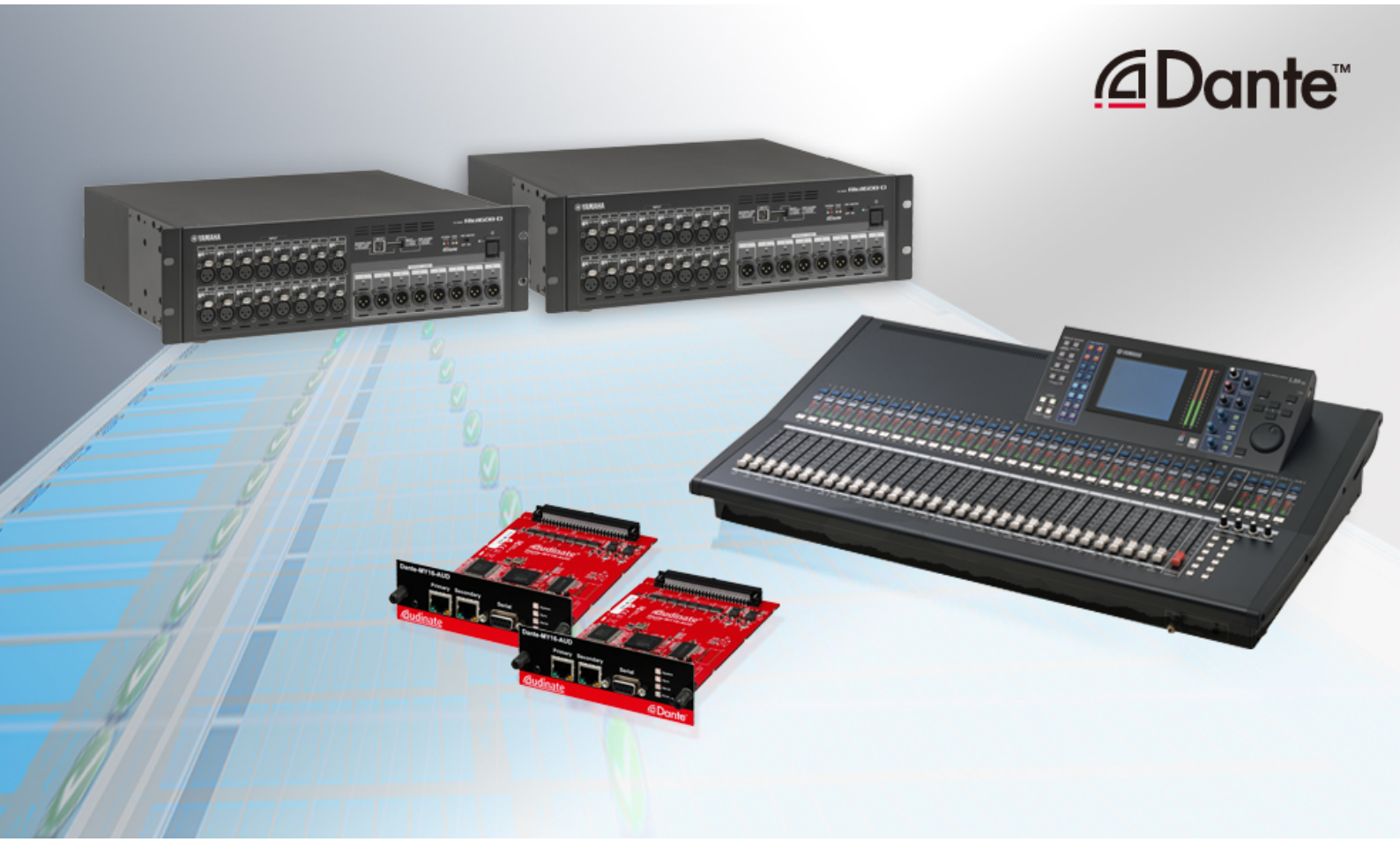
YAMAHA

Dante-MY16-AUD & Rio series HA Remote Control Guide



commercial audio

This guide describes the examples and setting procedures of a system where you remote-control the head amplifier (hereafter called the HA) of an I/O rack (Rio3224-D, Rio1608-D, etc.) connected with the Dante audio network, via the Dante-MY16-AUD card inserted in a slot in a Yamaha digital mixer (PM5D, M7CL, LS9, etc.). This solution allows you to remote-control it in a system where a Dante-compatible I/O rack is added and incorporated, using your favorite digital mixer as it is.
The setting procedure for a digital mixer varies with the model. For details, please also refer to the Owner's Manual of the applicable model.

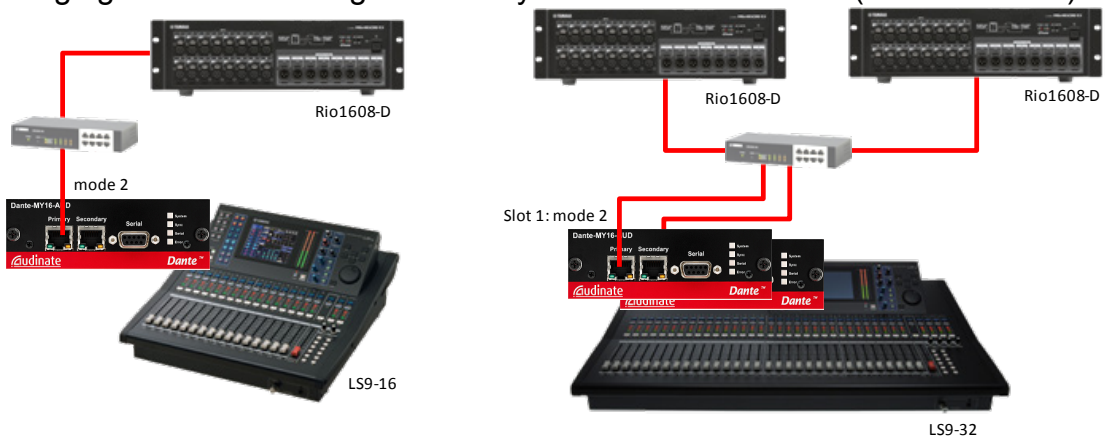
Table of Contents

System Examples 3
Equipment List 6
Connections for HA Control 7
Settings for Rio 8
Settings by Dante Controller 10
Settings for Digital Mixer 11

System Examples

Examples of the LS9 system

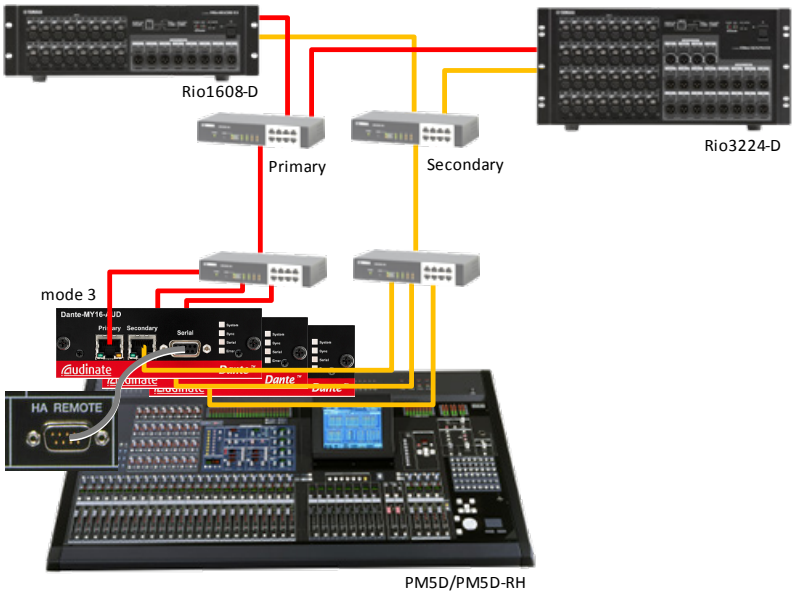
When inserting the Dante-MY16-AUD card into your LS9, you can remote-control the HA of an I/O rack on the Dante network from the LS9, with just a simple network connection. From the LS9, the Rio1608-D is recognized and controlled as two units of AD8HR for each unit. Please ensure that the card bridging an HA control signal is always inserted in the slot 1 (for the LS9-32).



Examples of the PM5D system

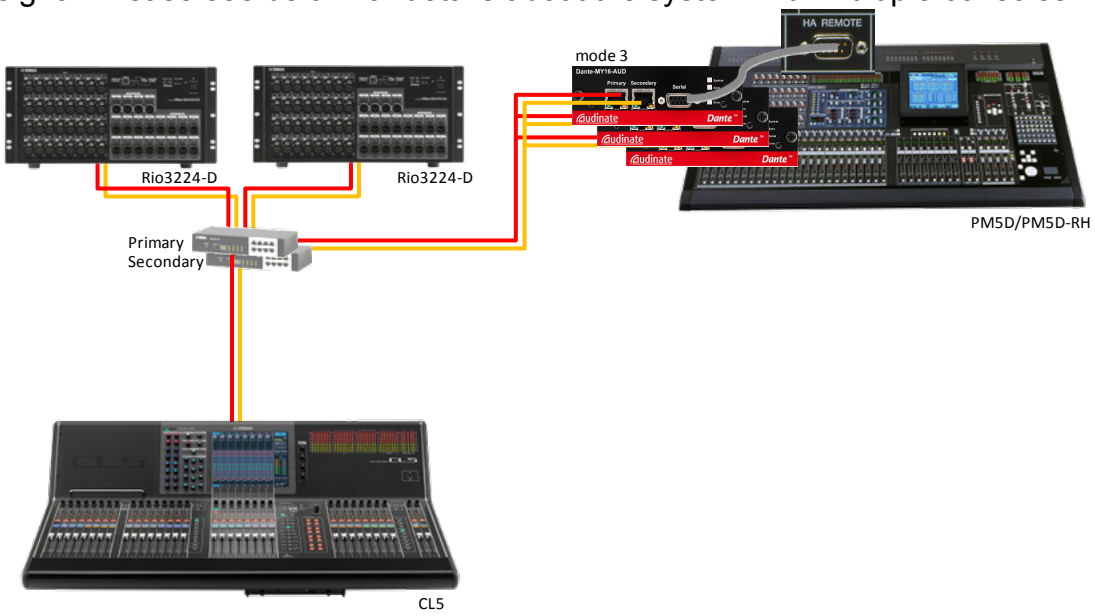
To remote-control the HA of an I/O rack on the Dante network from the PM5D, you need to connect the REMOTE terminals between the console and the card with a serial cable (straight, female–male), in addition to the network connection.

In the redundantly connected Dante network, a control signal also passes through both circuits. Therefore, even if the primary circuit is broken, the communication of HA control can continue by using the secondary circuit, as well as an audio signal.

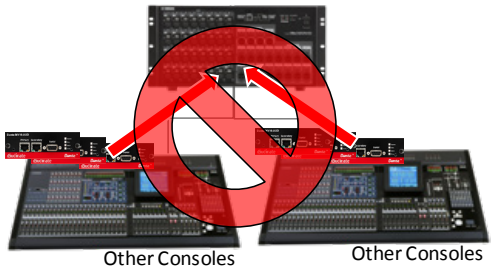


Examples of the system with multiple consoles

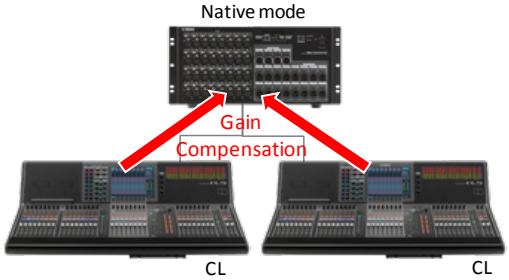
You can also connect multiple consoles onto the Dante network to share an I/O rack. In this case, although an audio signal can be distributed to multiple consoles from the same I/O rack by patching with the Dante Controller, the HA can only be controlled from one of the consoles. In the following example, the HA is controlled from the PM5D only, and the CL5 only shares an audio signal. Please see below for details about the system with multiple consoles.

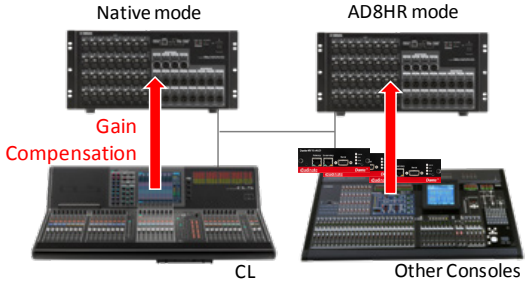


When you connect multiple consoles onto the Dante network to share an I/O rack, an audio signal can be distributed to multiple consoles from the same I/O rack, but the HA of the same I/O rack cannot be controlled from multiple consoles.



It is only when the Rio series (in NATIVE mode) is controlled from the CL series that the same I/O rack can be controlled from multiple consoles (in this case, also the Gain Compensation function can be used). However, even on the same network, the HA of a different I/O rack can be controlled from multiple consoles.



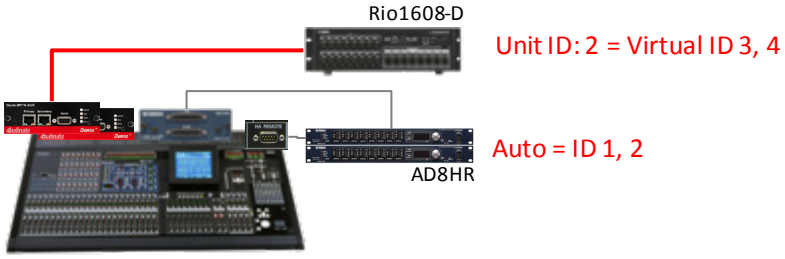


When the HA is controlled from the CL series, gain of the signal passing through the network can be kept constant by the Gain Compensation function. That is, in the example below, even if the HA gain is changed from the CL series, a level of the audio signal to be input to the PM5D will not fluctuate. When the HA is controlled from other consoles, the Rio series is operated in AD8HR mode; therefore, the Gain Compensation function cannot be used.

Note:
To control nine or more units of Rio series from one unit of CL-series console, you can also control the Rio series (in AD8HR mode) via the Dante-MY16-AUD inserted in a slot. In this case, however, each of the Rio series in NATIVE mode and the Rio series in AD8HR mode needs to be connected with a separate network.

Examples of the system mixed with AD8HR

The HA can be controlled even in the system mixed with such HA equipment as the Rio series, the AD8HR, and the DME24N. However, when you control these HAs, please ensure that their IDs are unique to each other. An ID of the AD8HR is automatically assigned in order of daisy chain connection, and an ID of the DME24N is set with the DME Designer. On the other hand, as for the Rio series, a setting of Unit ID virtually decides IDs as the AD8HR (cf. page 8).

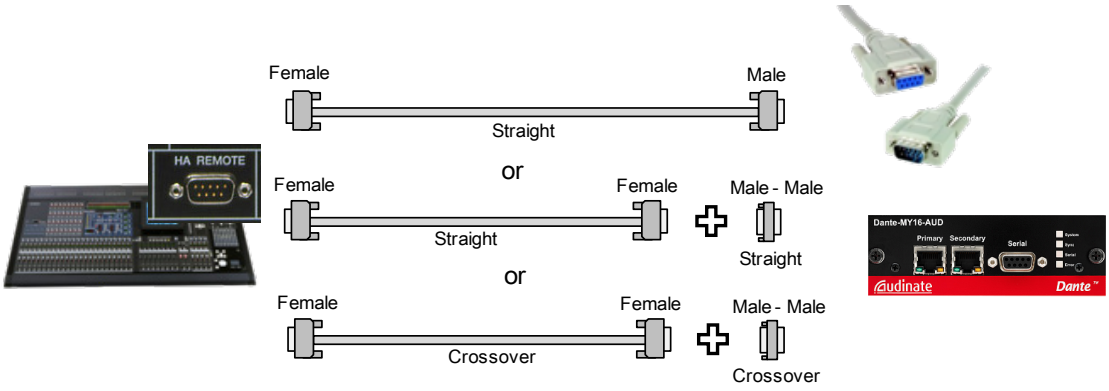


Equipment List

1. Yamaha digital mixer (PM5D/PM5D-RH, M7CL-32/48, M7CL-48ES, LS9, DM2000, DM1000) or digital mixing engine (DME64N/24N)
2. Dante-MY16-AUD card (firmware v3.3.9 or later)
3. Dante-compatible Yamaha HA equipment (Rio3224-D, Rio1608-D, etc.)
4. PC or Mac where Dante Controller v3.2.9 or later is installed
5. Gigabit network switch, network cable of CAT5e or better
6. D-sub 9-pin straight serial cable (male–female)*

Precautions for a serial cable:

- This is not required when you control the HA via the Dante network from the M7CL-48ES, the LS9, or the CL series. To control the HA from the other digital mixer, a serial cable is required. Moreover, it is required when you control such HA equipment as the AD8HR from the REMOTE terminal of the Dante-MY16-AUD card.
- The serial cable to use is a D-sub 9-pin straight cable. Moreover, the connector to use is a male–female type. If it is difficult to obtain them, you can use a straight cable of female–female type and a gender changer (conversion adapter) of male–male type. If you have a crossover cable, a gender changer of crossover type is also acceptable.

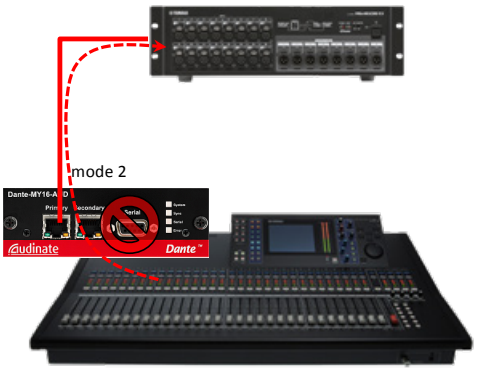


Connections for HA Control

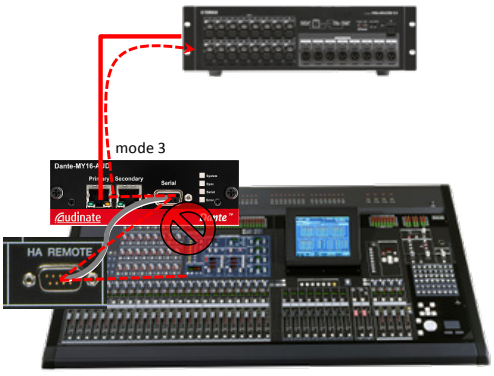
There are three types of the connections for HA remote control and bridge settings via the Dante-MY16-AUD card, as shown below. By default, no bridge is active (Mode 4); therefore, you need to set it with the Dante Controller without fail (cf. page 10).

Mode 1
An HA control signal is bridged between a slot (in host equipment) and a REMOTE terminal on the card (not bridged to the Dante network). This is used to directly control HA equipment via a serial cable from such host equipment with no HA REMOTE terminal as the LS9.

Mode 2
An HA control signal is bridged between a slot (in host equipment) and the Dante network (not bridged to a REMOTE terminal on the card). This is used to control HA equipment via the Dante network from such host equipment with no HA REMOTE terminal as the LS9. No serial cable is required.



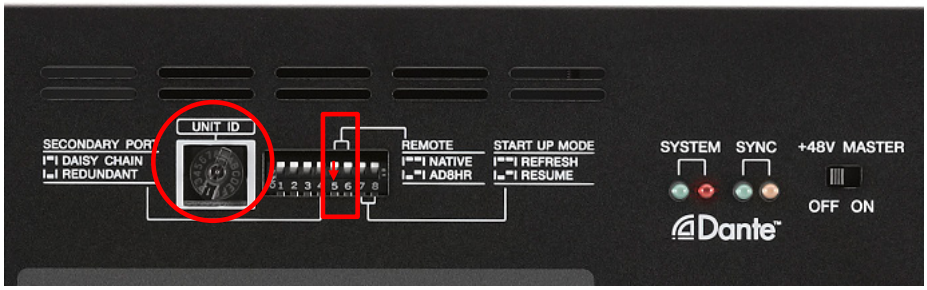
Mode 3
An HA control signal is bridged between a REMOTE terminal and the Dante network (not bridged to a slot). This is used to control HA equipment via the Dante network from such host equipment with an HA REMOTE terminal as the PM5D.



Note:
For the HA remote control via the Dante-MY16-AUD card, only one route can be bridged. Therefore, both the HA control via the network and the HA control via a REMOTE terminal cannot be bridged from the console simultaneously.

Settings for Rio

To remote-control the HA of the Rio series via the Dante-MY16-AUD card, you should set UNIT ID and REMOTE mode at the front panel of the Rio series as follows, and then turn on the power.



UNIT ID
A virtual ID as the AD8HR (with eight channels) is decided by the UNIT ID set here. For example, when you set 1 for UNIT ID, the mixer will recognize the Rio3224-D as a virtual ID 1 to 4 and the Rio1608-D as a virtual ID 1 to 2. When you mix different models of the Rio series or mix other HA equipment (AD8HR etc.) in the system, please especially ensure that virtual IDs are unique to each other. Discontinuous ID numbers (e.g. 1, 3, 4) are acceptable.

UNIT ID	Virtual ID (Hexadecimal)	
	Rio3224-D	Rio1608-D
1	1, 2, 3, 4	1, 2
2	5, 6, 7, 8	3, 4
3	9, A, B, C	5, 6
4	D, E, F, 10	7, 8

Examples of settings:
As for the system where the Rio3224-D, the Rio1608-D, and the AD8HR x 2 units coexist, if you set UNIT IDs as follows, they will be recognized as eight units of AD8HR with their IDs unique to each other.

- AD8HR x 2 units: ID 1, 2 (automatically assigned in order of daisy chain connection)
- Rio1608-D: UNIT ID 2 (virtual ID 3, 4)
- Rio3224-D: UNIT ID 2 (virtual ID 5 to 8)

Note:

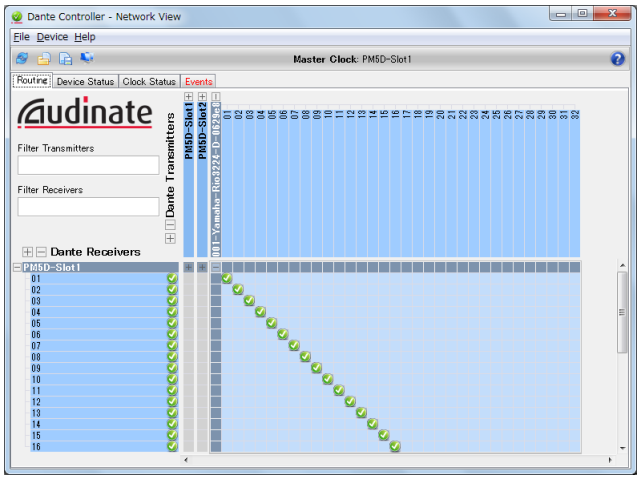
- The number of units of controllable HA equipment (virtual IDs of AD8HR) varies with the digital mixer, which can be checked at the EXTERNAL HA screen etc. The PM5D, the M7CL, the LS9-32, the LS9-16, the DM2000, and the DM1000 support eight, six, four, two, twelve, and four units, respectively. Patching of an audio signal is limited only by the number of channels due to that of cards used, regardless of the limitations above.
- If the Rio series in NATIVE mode and that in AD8HR mode coexist, please ensure that their UNIT IDs are unique to each other between the modes. In the examples of settings above, since they are all in AD8HR mode, non-unique UNIT IDs are acceptable because their virtual IDs are unique to each other.

REMOTE
Establish the AD8HR mode (flip DIP switch 5 down). The mixer will recognize the Rio series as the AD8HR (multiple units).

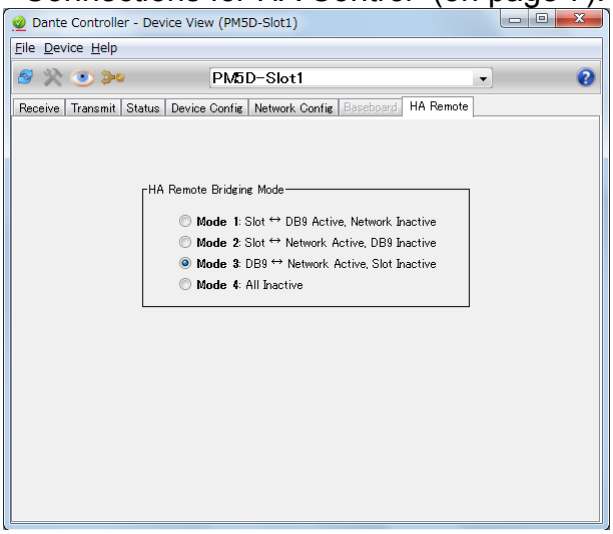
In this case, however, functions specific to the CL series, such as the Gain Compensation function, are disabled. In the system where the CL series and other mixers coexist, to control the HA from only the CL series, you can operate it as in NATIVE mode.

Settings by Dante Controller

When you start the Dante Controller, the Network View opens first, and all the Dante equipment on the network appear. This allows you to set the audio routing between Dante devices. Click a cell in the intersection of transmit and receive channels to set an audio route from the upper-right transmit channel to the lower-left receive channel. When the route is set, a green icon appears. For details, please refer to the Dante Controller user manual.



Double-click a device name of the Dante-MY16-AUD card (communicating an HA control signal with host equipment) to open the Device View window. On the HA Remote page, choose Mode 1, Mode 2, or Mode 3 as a serial bridge mode for HA remote of the Dante-MY16-AUD card. For details about each mode, please see “Connections for HA Control” (on page 7).



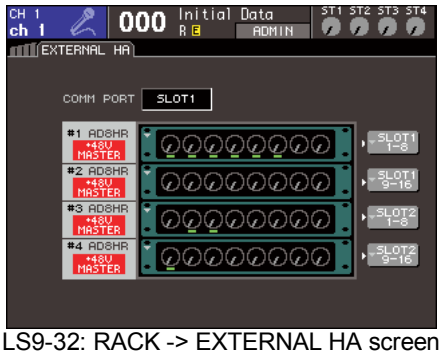
Note:
If the HA Remote page is not displayed on the Device View window, please check that the Dante Controller v3.2.9 or later and the Dante-MY16-AUD firmware v3.3.9 or later are used.

Settings for Digital Mixer

On the digital mixer, configure the same settings as those for remote-controlling other external HA equipment. For details, please also refer to the Owner's Manual of the applicable digital mixer.

On your digital mixer, open the EXTERNAL HA screen (or the REMOTE screen). At this screen, you can virtually mount the connected external HA equipment (the Rio series in this description) onto a rack as the AD8HR to control it.

M7CL-48: RACK -> EXTERNAL HA screen



LS9-32: RACK -> EXTERNAL HA screen

COMM PORT
Select a port that transmits/receives an HA control signal. For the LS9 or the M7CL-48ES, choose SLOT 1. The other equipment (such as the M7CL-48/32 and the PM5D) has no setting (only the HA REMOTE terminal is available).

EXTERNAL HA PORT
Select an audio input port (for eight channels of a slot) for each virtual rack.

When configuring the above settings, you can open a rack from the EXTERNAL HA screen to control the HA. Moreover, when patching a channel of the slot corresponding to an input port of each input channel, you can control the external HA from the input channel as well as the internal HA.

Note:
If the mixer cannot recognize HA equipment and the HA equipment does not appear on the screen of the mixer, please check the following.

- Are the Dante-MY16-AUD firmware and the Dante Controller updated to the version that supports the HA remote function? The firmware V3.3.9 or later and the Dante Controller V3.2.9 or later are required.
- (In the case where a serial cable is used) Are you using a straight cable?
- (In the case where control is done via the Mini-YGDAI slot) Have you inserted the Dante-MY16-AUD in SLOT1? Those other than SLOT1 can transmit no HA control signal.

- Is an HA Remote bridge mode of the Dante-MY16-AUD set properly?
- Is AD8HR mode established at the front panel of the Rio series? Are IDs unique to each other?
- Have you selected a port other than a REMOTE terminal and SLOT1 as a MIDI port on the MIDI SETUP screen of the digital mixer?